Gel Electrophoresis

Introduction

Electrophoresis gel for control of DNA or preparation of DNA-samples (removal of unwanted buffer or fragments (e.g. after restriction digestion).

Materials

- Agarose
- Buffer
- Dye (HDGreen)
- Loading Dye (purple loading dye)
- Probe (DNA)
- Standard (gene ruler, 1kb)

Procedure

- Make Gel

  (small gel/big gel: 50ml/130ml)

  1. 0,5g/1,3g of Agarose into Erlenmeyer
  2. Add 50ml/130 ml buffer, shake
  3. Into microwave until the solution is clear and no pieces are visible
  4. Cool down to 60°C, if it is too cold it will harden too early, if you can touch it for some time with your fingers it is ok
  5. Add to 50µl/100 ml (= ca. 3µl/8µl) HDGreen, shake
  6. Pour the solution into the chamber, put the ridge into it and let harden for 20 minutes, cover with aluminium foil to block light
  7. Remove the ridge and put the gel into the electrophoresis chamber.

- Add samples and run

  1. Add loading dye to the DNA-probe (10 µL), usually it is 6x concentrated, so the dye should be 1/6 of the final volume
  2. Load into the pockets, max 30ml per pocket
  3. Load standard (usually at the side of the gel)
  4. Run for 30 to 40 minutes at 100V.

- Inspection
  1. Inspect gel under UV-light suited for the dye
  2. In the case of prep gel: cut the gel parts which contain the desired DNA-fragment (protect your eyes).